

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 72695.

Port of Newcastle-on-Tyne Date of First Survey 31/3/19 Date of Last Survey 13/5/19 No. of Visits 9
 No. in Reg. Book on the Iron or Steel S/S Dennistoun Port belonging to Newcastle
 Built at South Shields By whom J. Readhead & Sons When built 1919
 Owners Wenley Shipping Co. Ltd. Owners' Address Glasgow Registered Newcastle-on-Tyne
 Yard No. 10 Electric Light Installation fitted by Clarke, Chapman & Co. Ltd. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed in Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board near Dynamo having switches to groups A, B, C, D & E of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each each light and group of lights provided with switches as required.

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes, slate and porcelain.
 Total number of lights provided for 147 arranged in the following groups:—

A Accommodation	72 lights each of	40-16 cp + 2-32 cp.	candle power requiring a total current of	41.4	Amperes
B Cargo blusters	40 lights each of	32	candle power requiring a total current of	44.8	Amperes
C Engine Room	26 lights each of	16	candle power requiring a total current of	14.5	Amperes
D Navigation	9 lights each of	30	candle power requiring a total current of	5	Amperes
E Wireless	- lights each of	-	candle power requiring a total current of	25	Amperes
2 Mast head light with 1 lamp	each of	32	candle power requiring a total current of	2.2	Amperes
2 Side light with 1 lamp	each of	32	candle power requiring a total current of	2.2	Amperes
5 Cargo lights of	8 - 32		candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. None
 Where are the switches controlling the masthead and side lights placed in Chart Room.

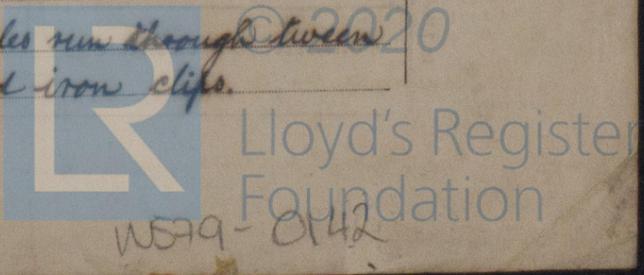
DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Branch cables carrying 41.4 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Branch cables carrying 44.8 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, .028 square inches total sectional area
 Leads to lamps carrying 1.1 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 9.6 Amperes, comprised of 19 wires, each 22 S.W.G. diameter, .01148 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Vulcanized India Rubber, taped & braided & lead covered where exposed steel armoured overall.
 Joints in cables, how made, insulated, and protected No joints except mechanical ones.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes
 Are there any joints in or branches from the cable leading from dynamo to main switch board No
 How are the cables led through the ship, and how protected Lead covered & armoured cables run through tween decks & clipped to underside of beams with strong galvanized iron clips.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *No*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & steel armoured cables*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead & Armoured cables*

What special protection has been provided for the cables near boiler casings " " "

What special protection has been provided for the cables in engine room " " "

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in W. J. Glands*

How are cables carried through decks *in galvanized iron deck tubes*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Lead covered & steel armoured cables*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

If so, how are the lamp fittings and cable terminals specially protected —

Where are the main switches and fuses for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *to W. J. connection Boxes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double Wire System*

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

Is the installation supplied with a voltmeter *Yes* and with an amperemeter *Yes* fixed on *Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas —

Are any switches, fuses, or joints of cables fitted in the pump room or companion —

How are the lamps specially protected in places liable to the accumulation of vapour or gas —

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is *fit and in good order and safe working condition.*

W. Walker Chairman Electrical Engineers Date *January 12th 1920.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *106 feet*

Distance between dynamo or electric motors and steering compass *100 "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>.56</i>	Amperes	<i>12</i>	feet from standard compass	<i>6</i>	feet from steering compass
A cable carrying	<i>.56</i>	Amperes	<i>6</i>	feet from standard compass	<i>12</i>	feet from steering compass
A cable carrying	—	Amperes	—	feet from standard compass	—	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *all* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

J. H. Readhead Builder's Signature Date *Jan'y 13. 1920*

GENERAL REMARKS.

The Electrical Installation is in accordance with the Society's Rules. It has been tested and found satisfactory

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

J.W.D.
21/1/20

W.T. Badger
Surveyor to Lloyd's Register of Shipping.

Committee's Minute



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